

REMARKS

Applicants respectfully request entry of the foregoing amendments and reconsideration of the application in view of the amendments above and the remarks below. Claims 1, 2, 3 and 18 are currently amended, and claims 33-40 are new. Claims 1 through 40 are currently pending, of which claims 1, 2, 3, 18, 33-37 and 39 are independent claims. No new matter has been added by way of the amendments above.

Claims 1-4, 6, 8, 13-14, 18-19, 21, 23 and 28-29 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,471,333 to Taga et al. Claims 1-4, 6-9, 13-15, 17-19, 21-24, 28-30 and 32 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,243,181 to Golovchenko et al. Claims 5 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taga in view of U.S. Patent 6,005,702 to Suzuki et al. Claims 10-12 and 25-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taga in view of U.S. Patent 6,215,929 to Byron. Claims 16 and 31 stand rejected under 35 U.S.C. § 103(a) as being anticipated by Taga in view of U.S. Patent 5,717,510 to Ishikawa et al.

Each of these rejections is traversed for the reasons below.

The Claims Are Patentable over Taga

Claims 1-4, 6, 8, 13-14, 18-19, 21, 23 and 28-29 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Taga. This rejection is traversed for the reasons below.

Unlike the present invention as recited by independent claim 1 where no amplifier is disposed between a first pair of adjacent sections and a second pair of adjacent sections from a set of sections having dispersion of opposite sign, Taga fails to disclose or suggest such an arrangement. Taga merely discloses an optical communication system having sections of an optical fiber transmission line where each section is separated by an optical amplifier (see, e.g., Figures 1 and 4, which show an optical amplifier repeater 3 between each segment of optical fiber 2). First sections 6 each include multiple optical amplifier repeaters 3 and optical fiber segments 2; second sections 5 each include multiple optical amplifier repeaters 3 and optical fiber segments 2. Taga entirely fails to disclose or suggest an optical communication system

having no amplifier disposed between a first pair of adjacent sections and a second pair of adjacent sections from a set of sections having dispersion of opposite sign. Thus, the present invention as recited by independent claim 1 is patentable over Taga.

Similarly, unlike the present invention as recited by independent claim 2 where a first pair of adjacent sections from the plurality of sections are connected to a second pair of adjacent sections from the plurality of sections without an intervening amplifier, Taga also fails to disclose or suggest such an arrangement. Thus, the present invention as recited by independent claim 2 is patentable over Taga.

Finally, unlike the present invention as recited by independent claims 3 and 18 where a dispersion-managed optical-fiber communication system includes a first section having a dispersion, a second section and having a dispersion of opposite sign from the dispersion of the first section, a third section having a dispersion and a fourth section having a dispersion of opposite sign from the dispersion of the third section, the second section being disposed between the first section and the third section without an intervening amplifier, Taga again fails to disclose or suggest such an arrangement.

Thus, the present invention as recited by independent claims 3 and 18 is patentable over Taga. Because claims 1-4, 6, 8 and 13-14 depend from independent claim 3, and claims 18-19, 21, 23 and 28-29 depend from independent claim 18, these dependent claims are also patentable over Taga.

The Claims are Patentable over Golovchenko

Claims 1-4, 6-9, 13-15, 17-19, 21-24, 28-30 and 32 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Golovchenko. This rejection is traversed for the reasons below.

Unlike the present invention as recited by independent claim 1 where no amplifier is disposed between a first pair of adjacent sections and a second pair of adjacent sections from a set of sections having dispersion of opposite sign, Golovchenko fails to disclose or suggest such an arrangement. Golovchenko merely discloses an optical communication system having repeating segments of an amplifier 10, a normal dispersion fiber 40, an anomalous dispersion fiber 50 and an amplifier 20 (see Figure 2; col. 4, lines 3-9). In other words, each segment of

normal dispersion fiber 40 and anomalous dispersion fiber 50 are connected by an intervening amplifier 10 or 20. Golovchenko entirely fails to disclose or suggest an optical communication system having no amplifier disposed between a first pair of adjacent sections and a second pair of adjacent sections from a set of sections having dispersion of opposite sign. Thus, the present invention as recited by independent claim 1 is patentable over Golovchenko.

Similarly, unlike the present invention as recited by independent claim 2 where a first pair of adjacent sections from the plurality of sections are connected to a second pair of adjacent sections from the plurality of sections without an intervening amplifier, Golovchenko also fails to disclose or suggest such an arrangement. Thus, the present invention as recited by independent claim 2 is patentable over Golovchenko.

Finally, unlike the present invention as recited by independent claims 3 and 18 where a dispersion-managed optical-fiber communication system includes a first section having a dispersion, a second section and having a dispersion of opposite sign from the dispersion of the first section, a third section having a dispersion and a fourth section having a dispersion of opposite sign from the dispersion of the third section, the second section being disposed between the first section and the third section without an intervening amplifier, Golovchenko again fails to disclose or suggest such an arrangement.

Thus, the present invention as recited by independent claims 3 and 18 is patentable over Golovchenko. Because claims 1-4, 6, 8 and 13-14 depend from independent claim 3, and claims 18-19, 21, 23 and 28-29 depend from independent claim 18, these dependent claims are also patentable over Golovchenko.

The Claims are Patentable over Taga in view of Suzuki

Claims 5 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taga in view of Suzuki. This rejection is traversed for the reason below.

Claim 5 depends from independent claim 3; claim 10 depends from independent claim 18. Because independent claims 3 and 18 are patentable over Taga as discussed above, their respective dependent claims 5 and 20 are also patentable over Taga. Suzuki fails to remedy the

deficiency of Taga. Thus, dependent claims 5 and 20 are also patentable over Taga in view of Suzuki.

The Claims are Patentable over Taga in view of Byron

Claims 10-12 and 25-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Taga in view of Byron. This rejection is traversed for the reasons below.

Claims 10-12 depend from independent claim 3; claims 25-27 depend from independent claim 18. Because independent claims 3 and 18 are patentable over Taga as discussed above, their respective dependent claims 10-12 and 25-27 are also patentable over Taga. Byron fails to remedy the deficiency of Taga. Thus, dependent claims 10-12 and 25-27 are also patentable over Taga in view of Byron.

In addition, Byron fails to qualify as prior art. Contrary to the characterization in the Office Action Summary that a certified copy of the priority document has not been received, the certified copies of the priority documents were provided in the earlier filed patent application U.S. Application Serial No. 09/494,246 (now U.S. Patent 6,738,542). Thus, the present application is entitled to the prior claim of July 31, 1997. Byron, however, has an effective § 102(e) date of December 29, 1998, which is latter than the priority date of the present application. Thus, Byron fails to qualify as prior art under § 102(e), and therefore cannot form any basis of a rejection under § 103(a). Thus, the present invention as recited by dependent claims 10-12 and 25-27 is patentable over Taga in view of Byron.

The Claims are Patentable over Taga in view of Ishikawa

Claims 16 and 31 stand rejected under 35 U.S.C. § 103(a) as being anticipated by Taga in view of U.S. Patent 5,717,510 to Ishikawa. This rejection is traversed for the reason below.

Claim 16 depends from independent claim 3; claim 31 depends from independent claim 18. Because independent claims 3 and 18 are patentable over Taga as discussed above, their respective dependent claims 16 and 31 are also patentable over Taga. Ishikawa fails to remedy the deficiency of Taga. Thus, dependent claims 16 and 31 are also patentable over Taga in view of Ishikawa.

New Claims 33 through 40

New claims 33 through 40 have been added. These new claims are patentable over the references discussed above for the following reasons.

Unlike the present invention as recited by independent claims 33-36 where pulses are transmitted over an optical fiber communications system such that the pulses propagate in the system under zero average dispersion or the system exhibits zero average dispersion, Taga fails to disclose such an optical system. More specifically, in Taga, the wavelength dispersion average value of the entire optical fiber transmission line has a positive value (see, e.g., col. 3, lines 24-33; col. 5, lines 6-12). Similarly, Golovchenko also fails to disclose such an optical system where pulses propagate under zero average dispersion or the system exhibits zero average dispersion. In Golovchenko, the portion of the optical system defined by the dispersion map 100 has a non-zero average dispersion value (see, e.g., col. 5, lines 46-50; see also, col. 5, lines 13-15). Thus, new independent claims 33-36 is patentable over Taga and Golovchenko.

Unlike the present invention as recited by independent claims 37 and 39 where a bandpass is disposed in at least one section of normal dispersion from the set of sections having dispersion of opposite sign, Taga and Golovchenko each fail to disclose such a bandpass filter. Thus, new independent claims 37 and 39, and their respective dependent claims 38 and 40, are patentable over Taga and Golovchenko.

Conclusion

All rejections having been addressed, Applicants respectfully submit that the present application is in condition for allowance, and earnestly solicit a Notice of Allowance, which is believed to be in order. Should the Examiner have any questions regarding this communication, or the application in general, he is invited to telephone the undersigned at 703-456-8108.


The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1283.

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